Remarks

Reconsideration of this application is requested in view of the attached request for continued examination, the foregoing amendments and the following remarks.

The status of the claims is as follows:

Claims 1-5 and 7-14 have been rejected;

Claim 6 has been indicated as containing allowable subject matter if written in independent form;

Claims 1, and 11-14 have been amended.

The examiner has rejected claims 1, 7, and 10-14 under 35 U.S.C. §103(a) as unpatentable based on Fan (US6693494) in view of the Nilson & Riedel document page 227 (hereafter "Nilson." In addition the examiner has rejected claims 2-5, 8 and 9 under 35 U.S.C. §103(a) as unpatentable over Fan in view of Kumar et al. (US6611161) and further in view of Nilson. These rejections as they apply to the amended claims are traversed.

In the Examiner's Answer on page 10, the examiner agrees that Fan does not disclose a series voltage shift capacitor. Further the examiner goes on to indicate that the language of claim1 as previously presented does not require that the capacitor be coupled in series between the phase comparator and the voltage controlled oscillator. While applicants continue to disagree with the examiner's interpretation of claim 1 as previously presented, in order to expedite allowance of this application applicants are amending claims 1 and 10-14 to make it explicitly clear that the capacitor is coupled in series between the phase comparator and the voltage controlled oscillator. This removes the examiner's argument that a "series capacitor" is a series of capacitors connected in series and that this series of capacitors could replace a capacitor and that would then be a "series capacitor" no matter how the capacitor was connected. Based on the amendment, it is clear that the capacitor is connected in series between the phase comparator and the voltage controlled oscillator. Therefore all claims are now allowable over the art of record and the rejection should be withdrawn.

In addition, the examiner in the Examiner's Answer interprets "polarization" in an incorrect manner. The examiner quotes from a standard English dictionary when from the attached page from the McGraw-Hill Dictionary of Electrical and Computer Engineering a person of ordinary skill would have interpreted the term "polarization" as was argued in Applicants' Brief and not in the manner done by the examiner. Where a term has a special meaning to those of skill in the art, that special meaning is to be used to interpret the claims as opposed to a "common" non-specialized meaning. For this additional reason, the claims are allowable for the reasons set out in the Appeal Brief because the cited art does not disclose polarization as required by claim 1 and as that term would be understood by one of ordinary skill in the art.

If for some reason, the examiner disagrees with the above interpretation, the examiner is encouraged to call the undersigned to discuss the application and possible amendments to result in the allowance of this application.

Deposit Account Authorization

The Commissioner is hereby authorized to charge any deficiency in any amount enclosed or any additional fees which may be required during the pendency of this application under 37 CFR 1.16 or 1.17, except issue fees, to Deposit Account No. 50-1903.

Respectfully submitted,

McCracken & Frank LLP
311 S. Wacker, Suite 2500
Chicago, Illinois 60606
(312) 263-4700
Customer No: 29471

By _____
J. William Frank III
Reg. No. 25,626

September 3, 2009

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Dictionary of Electrical and Computer Engineering

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Contents

polarizability [ELEC] The electric dipole moment induced in a system, such as an atom or molecule, by an electric field of unit strength. { ˌpō·lə,rīz·ə'bil·əd·ē }

polarizability catastrophe [ELEC] According to a theory using the Lorentz field concept, the phenomenon where, at a certain temperature, the dielectric constant of a material becomes infinite. { ˌpō·lə,rīz·ə'bil·əd·ē ˌkə'tas·trə·fē }

polarization [ELEC] 1. The process of producing a relative displacement of positive and negative bound charges in a body by applying an electric field. 2. A vector quantity equal to the electric dipole moment per unit volume of a material. Also known as dielectric polarization; electric polarization. 3. A chemical change occurring in dry cells during use, increasing the internal resistance of the cell and shortening its useful life. { ˌpō·lə·rə'zā·shən }

polarization charge *See* bound charge. { ˌpō·lə·rə'zā·shən ˌchärj }

polarization diversity [COMMUN] A method of transmission and reception used to minimize the effects of selective fading of the horizontal and vertical components of a radio signal; it is usually accomplished through the use of separate vertically and horizontally polarized receiving antennas. { ˌpō·lə·rə'zā·shən də'ver·səd·ē }

polarization division multiple access [COMMUN] A technique for allowing multiple users at geographically dispersed locations to gain access to a shared communications channel by assigning them electric fields of different polarization. { ˌpō·lə·rə¦zā·shən də¦vizh·ən ¦məl·tə·pəl 'ak,ses }

polarization division multiplexing [COMMUN] The sharing of a communications channel among multiple users by assigning them electric fields of different polarization. { ˌpō·lə·rə¦zā·shən di ˌvizh·ən 'məl·tə,pleks·iŋ }

polarization fading [COMMUN] Fading as the result of changes in the direction of polarization in one or more of the propagation paths of waves arriving at a receiving point. { ˌpō·lə·rə'zā·shən ˌfād·iŋ }

polarized electrolytic capacitor [ELEC] An electrolytic capacitor in which the dielectric film is formed adjacent to only one metal electrode; the impedance to the flow of current is then greater in one direction than in the other. { 'pō·lə,rīzd i¦lek·trə¦lid·ik kə'pas·əd·ər }

polarized electromagnetic radiation [ELECTROMAG] Electromagnetic radiation in which the direction of the electric field vector is not random. { 'pō·lə,rīzd i¦lek·trō·mag¦ned·ik ˌrād·ē'ā·shən }

polarized ion source [ELECTR] A device that generates ion beams in such a manner that the spins of the ions are aligned in some direction. { 'pō·lə,rīzd 'ī,ən ˌsȯrs }

polarized meter [ENG] A meter having a zero-center scale, with the direction of deflection of the pointer depending on the polarity of the voltage or the direction of the current being measured. { 'pō·lə,rīzd 'mēd·ər }

polarized plug [ELEC] A plug that can be inserted in its receptacle only when in a predetermined position. { 'pō·lə,rīzd 'pləg }

polarized receptacle [ELEC] A receptacle designed for use with a polarized plug, to ensure that the grounded side of an alternating-current line or the positive side of a direct-current line is always connected to the same terminal on a piece of equipment. { 'pō·lə,rīzd ri'sep·tə·kəl }

polarized relay [ELEC] Relay in which the movement of the armature depends upon the direction of the current in the circuit controlling the armature. Also known as polar relay. { 'pō·lə,rīzd 'rē,lā }

polar keying [COMMUN] Telegraph signaling in which circuit current flows in one direction for spacing. { 'pō·lər 'kē·iŋ }

polar modulation [COMMUN] Amplitude modulation in which the positive excursions of the carrier are modulated by one signal and the negative excursions by another. { 'pō·lər ˌmäj·ə'lā·shən }

polar radiation pattern [ELECTROMAG] Diagram showing the relative strength of the radiation from an antenna in all directions in a given plane. [ENG ACOUS] Diagram showing the strength of sound waves radiated from a loudspeaker in various directions in a given plane, or a similar response pattern for a microphone. { 'pō·lər ˌrād·ē'ā·shən ˌpad·ərn }

polar relay *See* polarized relay. { 'pō·lər 'rē,lā }

polar resolution [COMPUT SCI] Given the *x* and *y* components of a vector, the process of finding the magnitude of the vector and the angle it makes with the *x* axis. { 'pō·lər ˌrez·ə'lü·shən }

polar transmission [COMMUN] 1. A method of signaling in teletypewriter transmission in which direct currents flowing in opposite directions represent a mark and a space respectively, and absence of current indicates a no-signal condition. 2. By extension, any system of signaling that uses three conditions, representing a mark, a space, or a no-signal condition. { 'pō·lər tranz'mish·ən }

pole [ELEC] 1. One of the electrodes in an electric cell. 2. An output terminal on a switch; a double-pole switch has two output terminals. { pōl }

pole-positioning [CONT SYS] A design technique used in linear control theory in which many or all of a system's closed-loop poles are positioned as required, by proper choice of a linear state feedback law; if the system is controllable, all of the closed-loop poles can be arbitrarily positioned by this technique. { 'pōl pə,zish·ən·iŋ }

pole-zero configuration [CONT SYS] A plot of the poles and zeros of a transfer function in the complex plane; used to study the stability of a system, its natural motion, its frequency response, and its transient response. { 'pōl ¦zir·ō kən,fig·yə'rā·shən }

poling [ELEC] Adjustment of polarity; specifically, in wire-line practice, the use of transpositions between transposition sections of open wire or between lengths of cable, to cause the residual cross-talk couplings in individual sections or lengths to oppose one another. { 'pōl·iŋ }

Polish notation [COMPUT SCI] 1. A notation system for digital-computer or calculator logic in which there are no parenthetical expressions and each operator is a binary or unary operator in the sense that it operates on not more than two operands. Also known as Lukasiewicz notation; parenthesis-free notation. 2. The version of this notation in which operators precede the operands with which they are associated. Also known as prefix notation. { 'pō·lish nō'tā·shən }

polling [COMMUN] A process that involves interrogating in succession every terminal on a shared communications line to determine which of the terminals require service. { 'pōl·iŋ }

polling list [COMMUN] A roster of transmitting devices sequentially scanned in a time-sharing system. { 'pōl·iŋ ˌlist }

polyalphabetic substitution cipher [COMMUN] A cipher that uses several substitution alphabets in turn. { ˌpäl·ē¦al·fə'bed·ik ˌsəb·stə'tü·shən ˌsī·fər }

polychromatic radiation [ELECTROMAG] Electromagnetic radiation that is spread over a range of frequencies. { ¦päl·i·krō'mad·ik ˌrād·ē'ā·shən }

polyline [COMPUT SCI] In computer graphics, a series of connected line segments and arcs that are treated as a single entity. { 'päl·ē,līn }

polymer-dispersed liquid-crystal display [ELECTR] An electronic display in which the display elements have micrometer sized-diameter, have nearly spherical liquid-crystal droplets surrounded by a solid polymer, and the display is switched from a white opaque appearance to a clear transparent appearance by applying an electric field. { ¦päl·ə·mərdi,spərst ˌlik·wəd ˌkrist·əl di'splā }

polymorphic system [COMPUT SCI] A computer system that is organized around a central pool of shared software modules which are selected as they are needed for processing. { ¦päl·i¦mór·fik 'sis·təm }

polymorphism [COMPUT SCI] A property of object-oriented programming that allows many different types of objects to be treated in a uniform manner by invoking the same operation on each object. { ˌpäl·i'mór,fiz·əm }

polynomial time [COMPUT SCI] The property of the time required to solve a problem on a computer for which there exist constants *c* and *k* such that, if the input to the problem can be specified in *N* bits, the problem can be solved in $c \times N^k$ elementary operations. { ¦päl·ə¦nō·mē·əl 'tīm }

polyphase [ELEC] Having or utilizing two or more phases of an alternating-current power line. { 'päl·i,fāz }

polyphase circuit [ELEC] Group of alternating-current circuits (usually interconnected) which enter (or leave) a delimited region at more than two points of entry; they are intended to be so energized that, in the steady state, the alternating currents through the points of entry, and the alternating potential differences between them, all have exactly equal periods, but have differences in phase, and may have differences in waveform. { 'päl·i,fāz 'sər·kət }

polyphase meter [ENG] An instrument which measures some electrical quantity, such as power factor or power, in a polyphase circuit. { 'päl·i ˌfāz 'mēd·ər }

polyphase rectifier [ELECTR] A rectifier which utilizes two or more diodes (usually three), each of which operates during an equal fraction of an alternating-current cycle to achieve an output current which varies less than that in an ordinary half-wave or full-wave rectifier. { 'päl·i ˌfāz 'rek·tə,fī·ər }

polyphase synchronous generator [ELEC] Generator whose alternating-current circuits are so arranged that two or more symmetrical alternating electromotive forces with definite phase relationships are produced at its terminals. { 'päl·i,fāz 'siŋ·krə·nəs 'jen·ə,rād·ər }

polyphase transformer [ELEC] A transformer with multiple sets of primary and secondary windings on a single core; used in a polyphase circuit. { 'päl·i,fāz tranz'fȯr·mər }

polyphase wattmeter [ENG] An instrument that measures electric power in a polyphase circuit. { 'päl·i,fāz 'wät,mēd·ər }

polyrod antenna [ELECTROMAG] End-fire directional dielectric antenna consisting of a polystyrene rod energized by a section of waveguide. { 'päl·i,rād an'ten·ə }

polystyrene capacitor [ELEC] A capacitor that uses film polystyrene as a dielectric between rolled strips of metal foil. { ¦päl·i'stī,rēn kə'pas·əd·ər }

polystyrene dielectric [ELEC] Polystyrene used in applications where its very high resistivity, good dielectric strength, and other electrical properties are important, such as for electrical insulation or in dielectrics. { ¦päl·i'stī,rēn ¦dī·ə'lek·trik }

polyvalent number [COMPUT SCI] A number, consisting of several figures, used for description, wherein each figure represents one of the characteristics being described. { ¦päl·i'vā·lənt 'nəm·bər }

pool cathode [ELECTR] A cathode at which the principal source of electron emission is a cathode spot on a liquid-metal electrode, usually mercury. { 'pül ˌkath,ōd }

pool-cathode mercury-arc rectifier [ELECTR] A pool tube connected in an electric circuit; its rectifying properties result from the fact that only the mercury-pool cathode, and not the anode, can emit electrons. Also known as mercury-pool rectifier. { 'pül ˌkath,ōd 'mər·kyə·rē ¦ärk 'rek·tə ˌfī·ər }

pool-cathode tube *See* pool tube. { 'pül ˌkath ˌōd ˌtüb }

Poole-Frenkel effect [ELEC] An increase in the electrical conductivity of insulators and semiconductors in strong electric fields. { ¦pül 'freŋ·kəl i,fekt }

pool tube [ELECTR] A gas-discharge tube having a mercury-pool cathode. Also known as mercury tube; pool-cathode tube. { 'pül ˌtüb }

pop [COMPUT SCI] To obtain information from the top of a stack and then reset a pointer to the next item in the stack. { päp }

POP *See* Post Office Protocol. { pöp *or* ¦pē¦ō'pē }

popcorn noise [ELECTR] Noise that is produced by erratic jumps of bias current between two